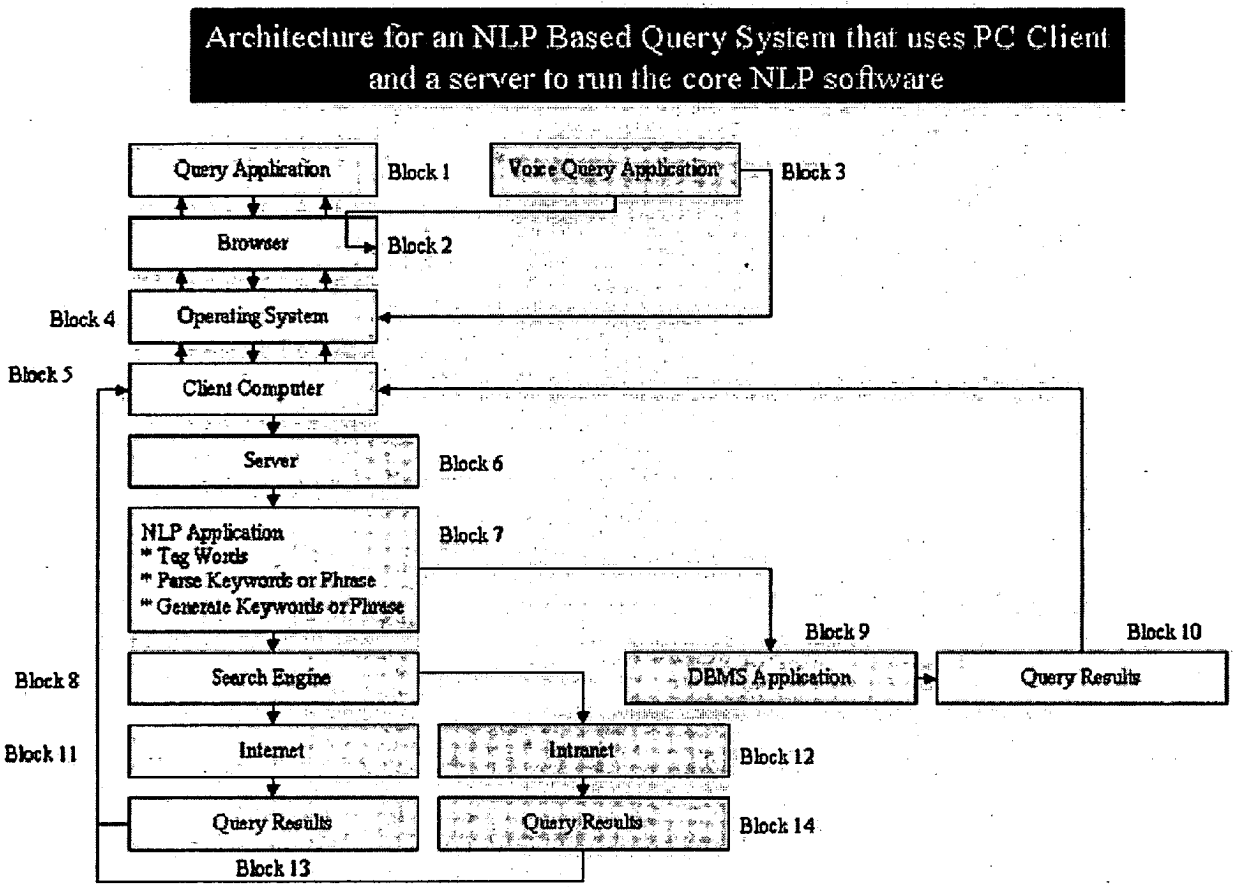
Architecture for an NLP Based Query System that uses PC Client and a server to run the core NLP software
Query Application
Block 1
Voice Query Application
Block 3
Browser
Block 2
Block 4
Operating System
Block 5
Client Computer
Server
Block 6
NLP Application
* Tag Words
* Parse Keywords or Phrase
* Generate Keywords or Phrase
Block 7
Block 9
Block 10
Block 8
Search Engine
DBMS Application
Query Results
Block 11
Internet
Intranet
Block 12
Query Results
Query Results
Block 14
Block 13

FIG. 1

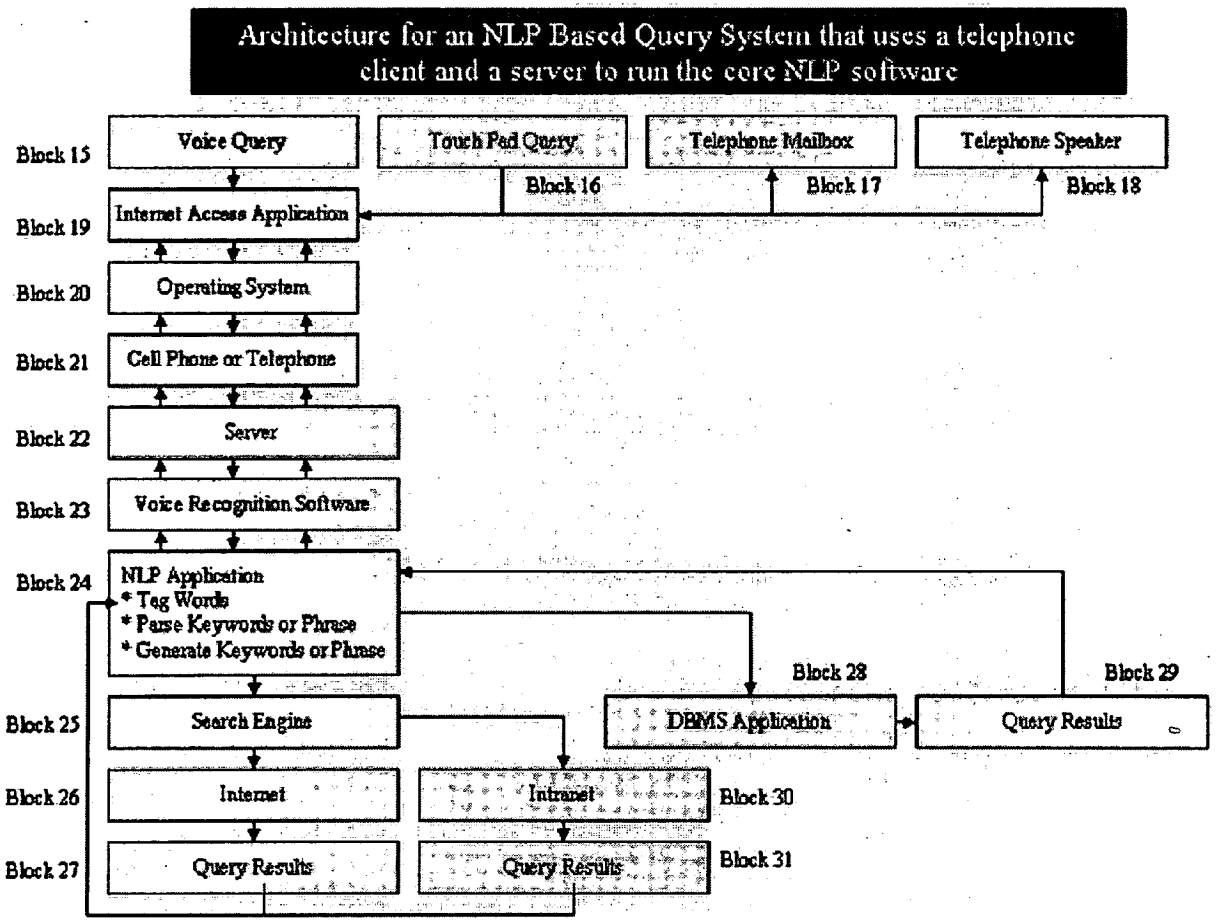
Architecture for an NLP Based Query System that uses a telephone client and a server to run the core NLP software
Block 15
Voice Query
Touch Pad Query
Telephone Mailbox
Telephone Speaker
Block 16
Block 17
Block 18
Block 19
Internet Access Application
Block 20
Operating System
Block 21
Cell Phone or Telephone
Block 22
Server
Block 23
Voice Recognition Software
Block 24
NLP Application
* Tag Words
* Parse Keywords or Phrase
* Generate Keywords or Phrase
Block 28
Block 29
Block 25
Search Engine
DBMS Application
Query Results
Block 26
Internet
Intranet
Block 30
Block 27
Query Results
Query Results
Block 31

FIG. 2

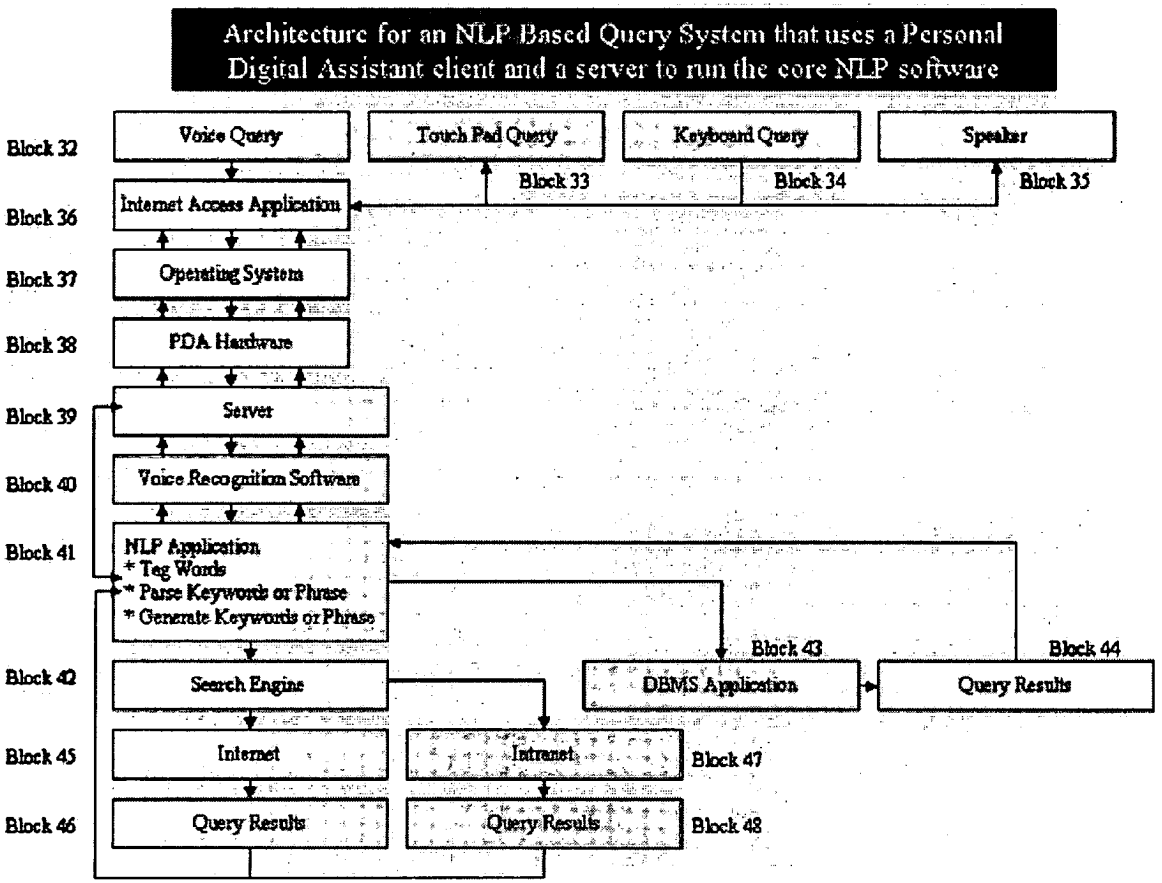
Architecture for an NLP Based Query System that uses a Personal Digital Assistant client and a server to run the core NLP software
Block 32
Voice Query
Touch Pad Query
Keyboard Query
Speaker
Block 33
Block 34
Block 35
Block 36
Internet Access Application
Block 37
Operating System
Block 38
PDA Hardware
Block 39
Server
Block 40
Voice Recognition Software
Block 41
NLP Application
* Tag Words
* Parse Keywords or Phrase
* Generate Keywords or Phrase
Block 42
Search Engine
Block 43
DBMS Application
Block 44
Query Results
Block 45
Internet
Intranet
Block 47
Block 46
Query Results
Query Results
Block 48

FIG. 3

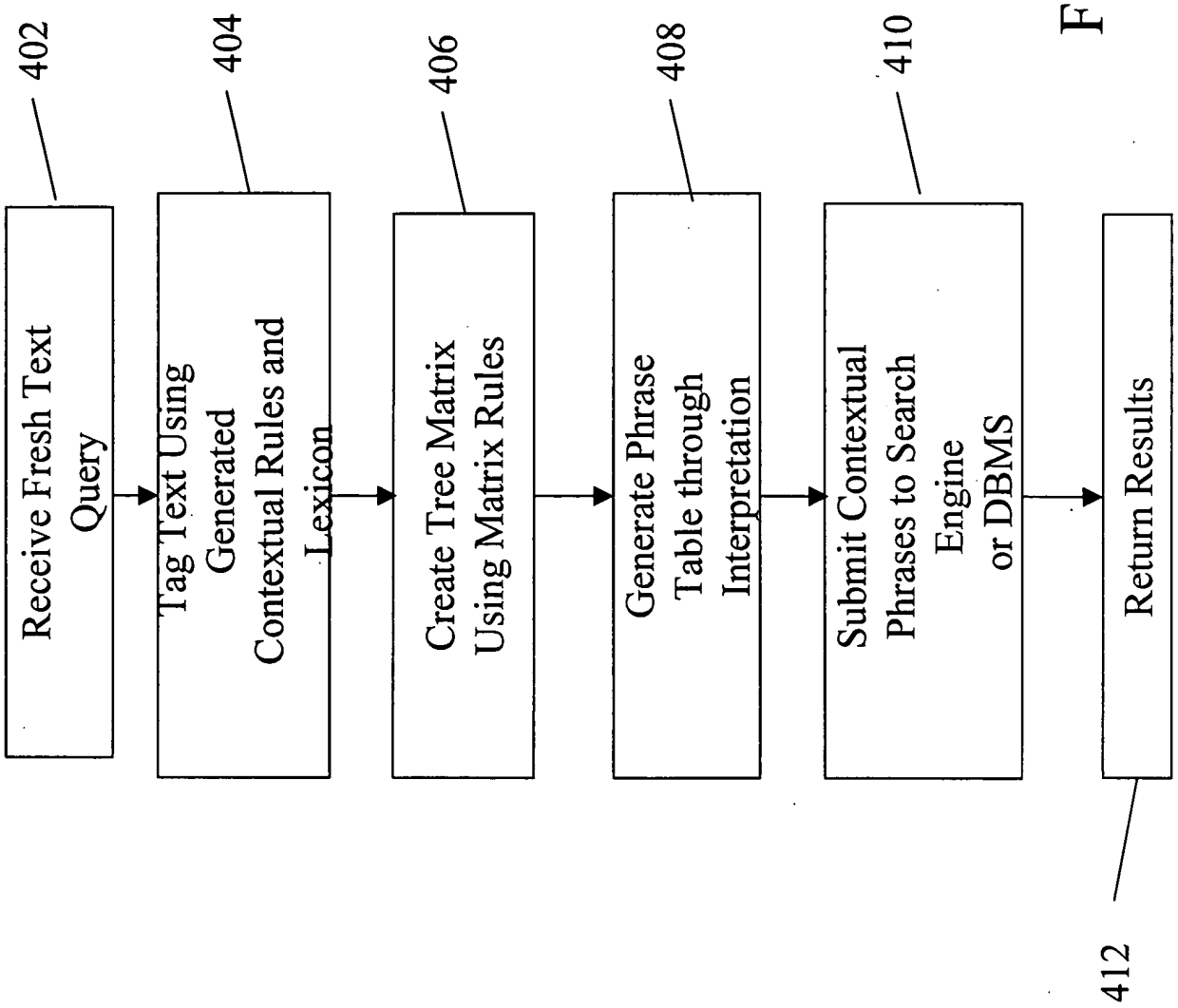
Receive Fresh Text Query
402
Tag Text Using Generated Contextual Rules and Lexicon
404
Create Tree Matrix Using Matrix Rules
406
Generate Phrase Table through Interpretation
408
Submit Contextual Phrases to Search Engine or DBMS
410
Return Results
412

FIG. 4

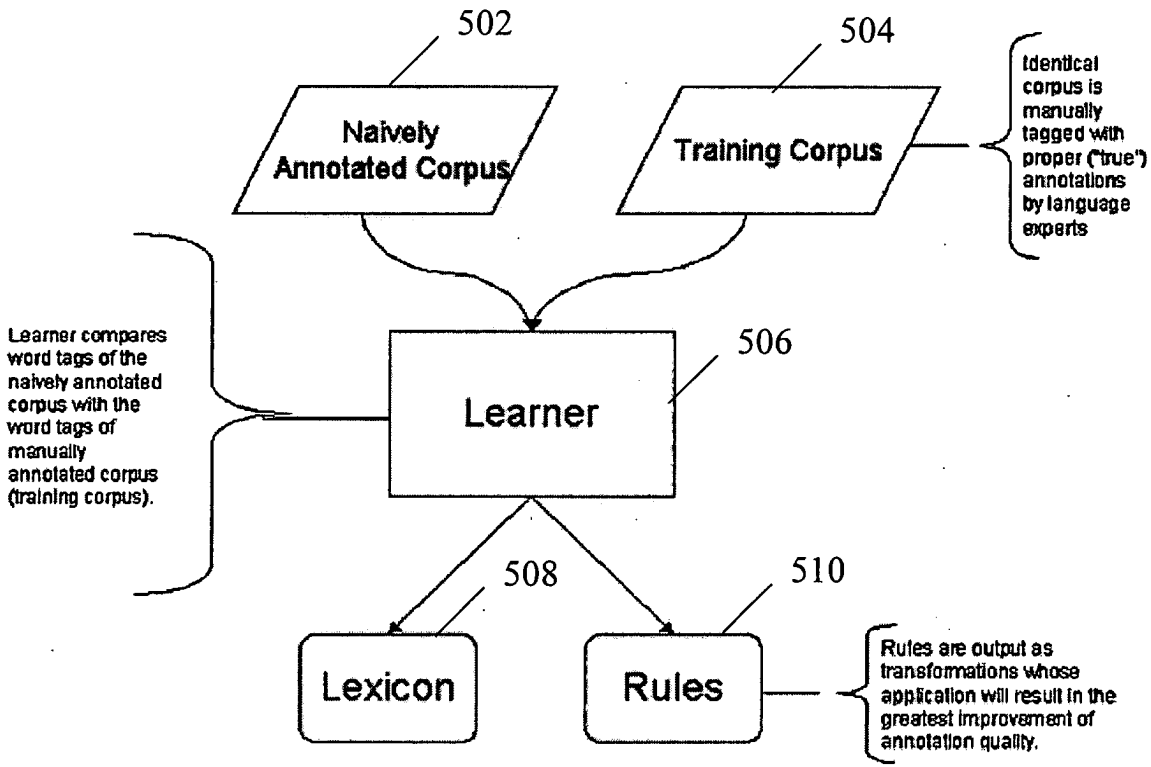
502
Naively Annotated Corpus
504
Training Corpus
Identical corpus is manually tagged with proper ("true") annotations by language experts
Learner compares word tags of the naively annotated corpus with the word tags of manually annotated corpus (training corpus).
506
Learner
508
Lexicon
510
Rules
Rules are output as transformations whose application will result in the greatest improvement of annotation quality.

FIG. 5

SAMPLE QUERY: What airlines are advertising special fares for June - September of 2000?

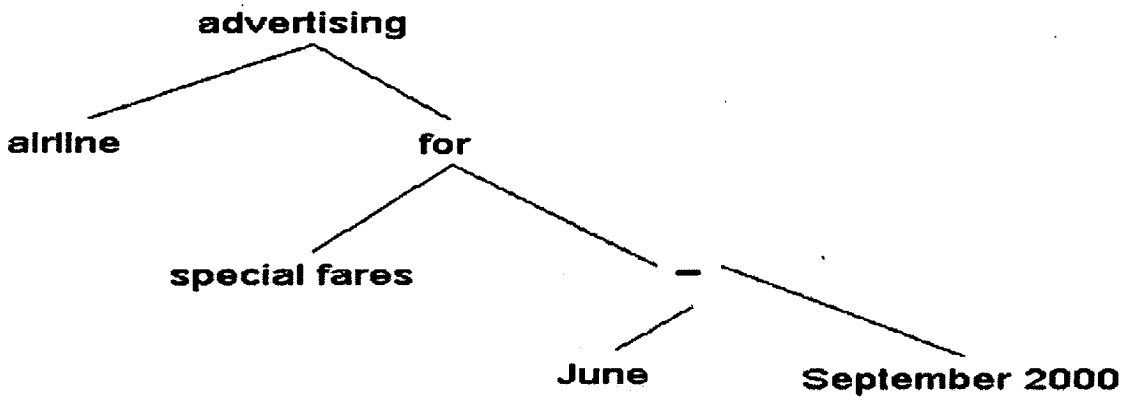

FIG. 6

TOh280' 6788E660

SAMPLE QUERY: I need information for IBM 1995 - 1997 annual reports

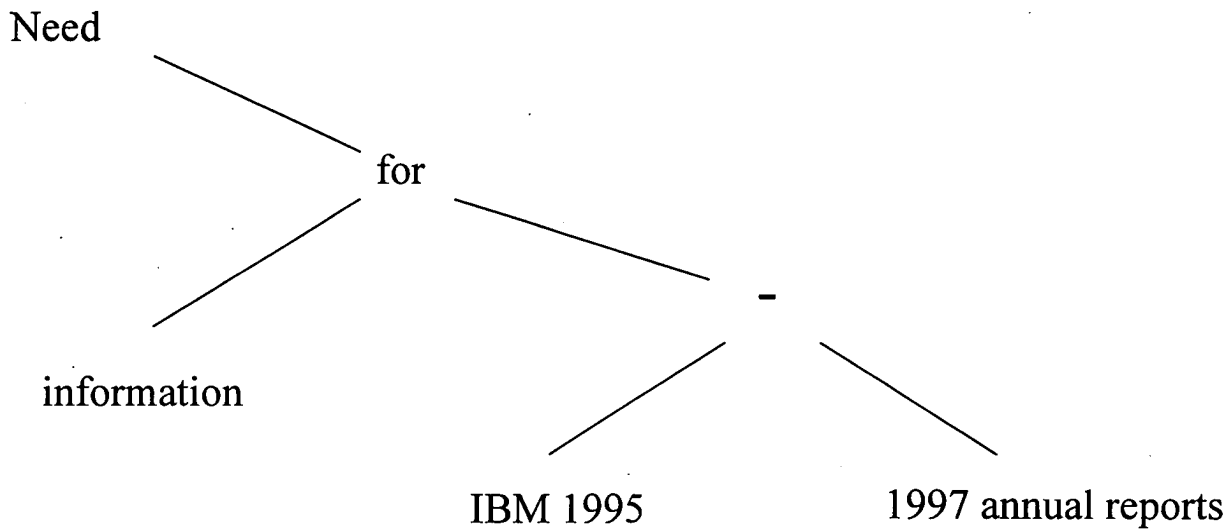

FIG. 7

Concept Phrase Generation

September 2000
August 2000
July 2000
June 2000
Special fares September 2000
Special fares August 2000
Special fares July 2000
Special fares June 2000
Airline fares September 2000
Airline fares August 2000
Airline fares July 2000
Airline fares June 2000
Airline Special fares September 2000
Airline Special fares August 2000
Airline Special fares July 2000
Airline Special fares June 2000

FIG. 8

TO#280 67886660

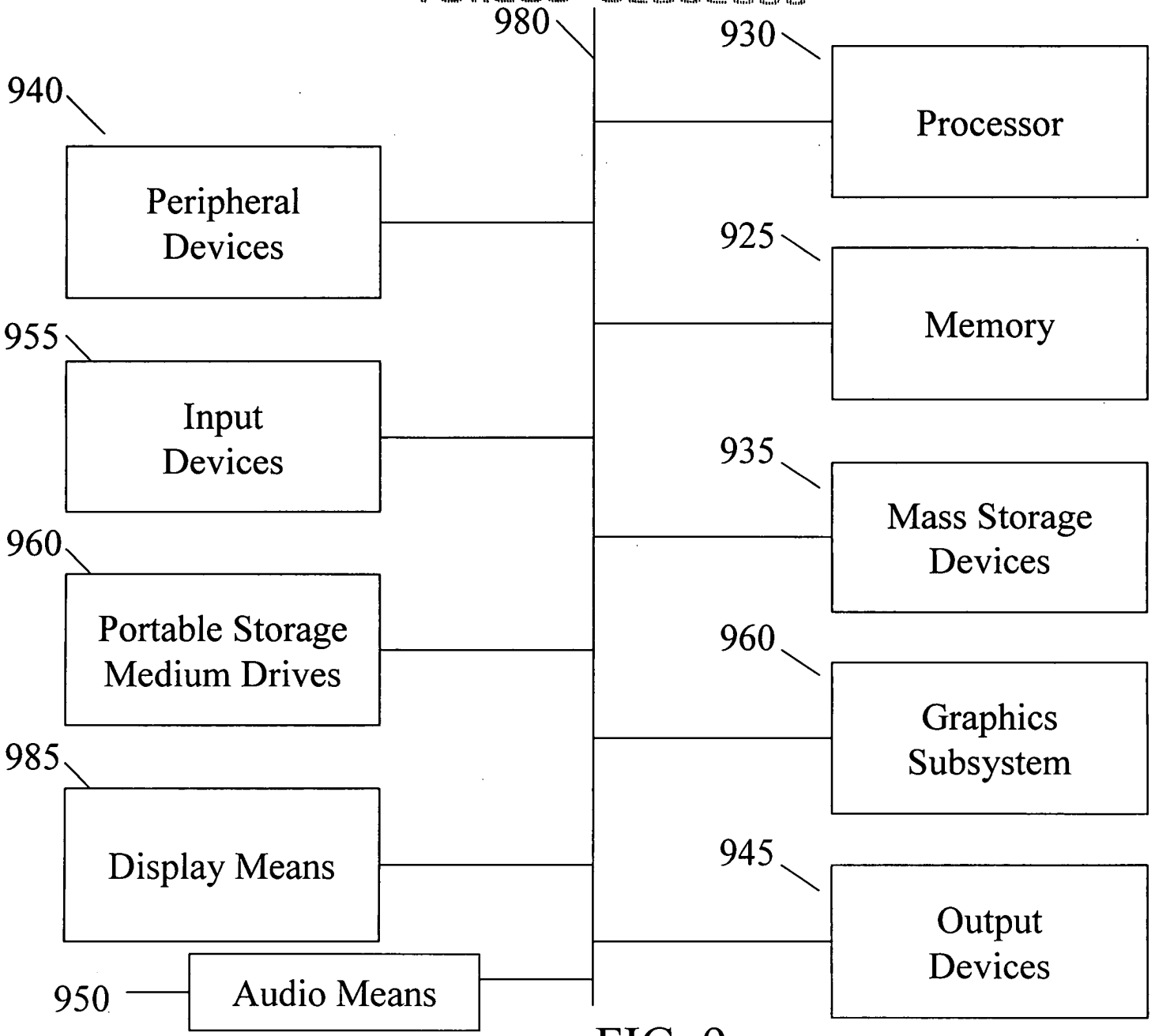

FIG. 9